Western Canada's Natural Capital

Toward a New Public Policy Framework

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Executive Summary

Western Canada possesses natural treasures that greatly enhance our quality of life, and thereby the West's competitive position in the attraction and retention of increasingly mobile human capital. These treasures, and particularly the urban, working and wild landscapes that shape regional identities, are therefore critically important to the West. However, they are not fully embedded in existing public policy frameworks.

These frameworks have long recognized the importance of produced capital (equipment and infrastructure), and are coming to grips with the importance of human capital – the skills and health status that individuals bring to the economy. They have also addressed natural resources that lie beneath the surface. However, those same public policy frameworks have not adequately embraced the importance of natural capital, and particularly land and water resources.

The objective of *Western Canada's Natural Capital* is to draw attention to the importance of natural capital for public policy, and to argue for the greater recognition of natural capital within public policy discussions in the West. The long-term prosperity of the West depends on finding the appropriate public policy balance among produced, human and natural capital.

Western Canada's Natural Capital is designed to create a new public policy language for environmental protection. Over the past decade, the politics of environmentalism have been polarized, pitting environmental protection against economic development. In the context of the West, however, this polarization makes little sense given the economic value of natural capital. Hence the need to find a public policy framework built around the notion of environmental prosperity, a framework that recognizes that sustaining natural capital is an essential precondition for economic prosperity.

There is, then, a need to recognize and celebrate natural capital; to measure our success in preserving natural capital; to protect and build natural capital; to respect dominant land uses (such as protecting agricultural and ranching lands); to identify and develop opportunities for sustainable wilderness, heritage and urban tourism, and to create new integrated management systems for land and water resources.

Western Canada's Natural Capital recognizes that the connections western Canadians have with natural capital are not restricted to wild landscapes, that they extend to the urban environments within which most western Canadians live, and to the working environments that reflect both our economic base and heritage.

Public opinion data presented in *Western Canada's Natural Capital* demonstrate that western Canadians place a high priority on environmental protection. They also show that western Canadians reject the often assumed tension between economic prosperity and environmental protection; instead, the two are seen as complementary.

The report does not make specific public policy recommendations. Rather, its goal is to open a new dialogue on public policy, and to find a language that brings the preservation of natural landscapes to the heart of public policy debate within the West. Simply put, western Canada's prosperity depends on our ability to balance the long-term growth of the economy with the urban, working and wild landscapes we all cherish.

1. Introduction

Western Canada has many world-class assets including abundant natural resources, a strong tradition of multiculturalism, a well-educated labour force, and a prosperous regional economy. However, one key asset is not adequately captured by existing public policy frameworks, and that is the West's ***natural capital*** – the landscapes that shape regional identities, sustain its economic base, and enrich its quality of life.

This oversight is surprising given that the Canadian identity – both at home and abroad – is inextricably tied to our natural environment. Canada is seen as a vast pristine wilderness with formidable snow-covered mountains, golden prairies, clean air, abundant rivers and lakes, wild shorelines, and extensive northern forests. Even as the country urbanizes, this vision is held dear to the hearts of Canadians and international visitors alike. In this respect, the West is particularly fortunate in that it is home to virtually all of the elements for which Canada is famous. Perhaps as a consequence, the West's natural capital is so integral to our regional identity and way of life that we often forget that natural capital, like other forms of capital, must be nurtured, managed and sustained.

Western Canada's Natural Capital is designed to address this oversight by introducing the concept of natural capital, underscoring its potential importance as a public policy framework, and discussing how it can facilitate constructive debate on the balance among economic, conservation and social goals. More specifically, the report will address the following inter-related questions:

- What is the West's natural capital, and how is it perceived by western Canadians?
- Why would a natural capital framework make sense for western Canada?
- How might we begin to think through the specifics of a natural capital framework for public policy?

By answering these questions, *Western Canada's Natural Capital* will provide a new way for western Canadians to think about environmental prosperity. The goal is not a concrete set of policy recommendations, but rather the start of a new dialogue.

Our underlying thesis is that western Canada possesses natural treasures that make it one of North America's jewels. If carefully managed, they give the region a considerable comparative economic and quality of life advantage relative to other parts of the continent. There is, moreover, an opportunity to recognize, celebrate and sustain this natural capital for generations to come. If this opportunity is not seized, however, there is a risk that the region's natural capital will be eroded or even destroyed, and that one of the West's key comparative advantages will be lost.

2. What is Natural Capital?

Capital refers to assets or advantages, and it can take at least three forms. ***Produced capital*** refers to machinery, equipment, infrastructure, investment financing and other items that produce goods and services for business and consumers. Produced capital is well understood by both governments and the general public. For example, Statistics Canada calculates annual estimates of produced capital in its National Balance Sheet Accounts. Because produced capital deteriorates over time, reinvestment is required on a continual basis. Most of these investments are made by the businesses involved, although governments do play a role, particularly with respect to transportation infrastructure.

Human capital refers to the human resources and skills that can be applied productively in the economy and society. A country or region is rich in human capital if it has a work force with the education and skills needed to meet economic demands, and the health status necessary to participate in the work force. As with produced capital, human capital is well understood by governments and the general public, as is evidenced by policy attention to population growth, interprovincial migration, post-secondary education, employment participation, productivity, life expectancy, public health and quality of life. And, like produced capital, human capital requires regular reinvestments by governments, businesses and the non-profit sector – through formal education, training programs, and health expenditures – to ensure that a sufficient supply of human capital is present for current and future needs. Although human capital generally refers to traits possessed by individuals (e.g., education, skills), our understanding of human capital has expanded to include ***social capital,*** which refers to attributes possessed by communities (e.g., trust, social cohesion).

Natural capital includes resources such as minerals, timber, and oil and gas which provide the raw materials used in the production of manufactured goods. However, it also includes the land and water resources that anchor our quality of life and support economic activity such as agriculture, forestry, tourism and recreation. Furthermore, natural capital includes living ecosystems – grasslands, oceans and forests – that cleanse fouled air and water, reinvigorate soil, and contribute to a predictable, stable climate. (Wetland systems, for example, provide water storage, flood control and filtration.) Like produced capital, natural capital is subject to deterioration, in this case through excessive growth and waste, natural resource extraction, and modification of the landscape.

All forms of capital are essential for prosperity and quality of life. Canadians, however, do not focus sufficiently on ensuring a balance of produced, human and natural capital – an oversight that puts long-term interests at risk. As England (1998,10) argues, "existing measures of the aggregate capital stock neglect the productive contribution of nonproduced assets provided by nature. Hence, the conception and measurement of capital should be broadened to include these natural assets." While western Canadians are well acquainted with the need to manage produced capital and are growing in their appreciation of the need to manage human capital, there is insufficient attention to the need to manage natural capital, and particularly those aspects of natural capital that are found above ground, including water and landscapes. For example, the 2003 Alberta budget included numerous measures of economic and social performance, but not a single measure of natural capital (Alberta Finance 2003, 101-123). This oversight is surprising given the extent to which our economic prosperity and an enviable quality of life are linked so tightly to natural capital. It is, then, to this missing piece of the pie that *Western Canada's Natural Capital* is directed.

Natural Capital and the Alberta Advantage

Although the Province of Alberta has enjoyed success in marketing the "Alberta Advantage," there is a troubling hole in the way that advantage is often defined. It includes low taxes and sound fiscal management, natural resources lying beneath the soil and, increasingly, human capital. What is missing is a clear public policy emphasis on natural capital, and yet it is precisely natural capital that attracts so many people to the province and retains those who are here. The emotional bonds individuals have with their province, indeed their very identities, are more likely to flow through Alberta's landscapes than through low tax rates. In this sense, the "Super Natural" slogan for British Columbia may exert a more powerful emotive appeal than does the "Alberta Advantage."

Sections 3, 4, and 5 examine the urban, working and wild landscapes that comprise the West's natural capital. Urban landscapes are encountered on a daily basis in our cities and towns – river valleys, pathways, parks, and mountain vistas. Working landscapes reflect our heritage and sustain our population – farmland, ranchlands, and forests. Wild landscapes include provincial and national parks, ecological reserves, recreational areas, land and water resources protected from development and large tracts of remote, little used Crown and private land.

Although western Canada's rich endowment of non-renewable resources is also part of the region's natural capital, these resources will not be included in the analysis to come. This omission stems from the fact that their management is already deeply embedded in the region's public policy frameworks. Moreover, they are so important to our economy that precise and regular measures are already taken on their exploration, production and financial performance. For example, we know how many barrels of oil Alberta and Saskatchewan produce each year, and how much coal and potash is mined. However, we lack equivalent knowledge about natural capital that lies on the surface, and hence our focus on land and water resources as components of natural capital.

3. URBAN Landscapes in the West

Canada is increasingly urban, and the West is no exception to this trend. At the time of the 2001 Census, 60.4% of western Canadians lived in eight Census Metropolitan Areas (CMAs) – Vancouver, Calgary, Edmonton, Winnipeg, Saskatoon, Regina, Victoria, and Abbotsford. Between 1996 and 2001 only one of these CMAs – Regina – experienced negative growth, and Calgary's growth of 16% during this period led the country. Urban growth has been accompanied by the physical expansion of cities. This is visibly apparent when one flies into the western cities: their footprints are growing larger and larger. While one may debate whether they have experienced "urban sprawl" or "smart growth," western cities outside the BC lower mainland have comparatively low population densities.

It is this urban expansion in terms of both population and landmass that brings the discussion of natural capital in urban settings into focus. Although urban areas are often thought of in terms of skyscrapers, concrete, and automobiles, they are also home to parks, vistas, beaches, rivers, forests and wildlife, all of which contribute to the urban quality of life.

Table 1:
Size and Population of Western CMAs, 2001

CMA	Area (km^2)	Population
Abbotsford	625.9	147,370
Calgary	5,083.0	951,395
Edmonton	9,418.6	937,845
Regina	3,407.8	192,800
Saskatoon	5,192.2	225,927
Vancouver	2,878.5	1,986,965
Victoria	695.3	311,902
Winnipeg	4,151.5	671,274

Source: Statistics Canada

Urban natural capital can have an immediate economic value. For example, a number of analyses in Canada and the United States show that residential property values increase when situated adjacent to or near open areas and parks. According to a University of British Columbia study, "proximity to greenways has a positive property value effect of around 15%" (Hamilton and Quayle 1999 cited in Curran 2001, 8). The economic benefits, moreover, are not limited to residential properties. The US-based Trust for Public Land argues that businesses in downtowns should incorporate green space into their development plans because of the economic returns: "If building owners and the agents help protect urban open space they will be more than paid back for their efforts, both in increased occupancy rates and in increased rent – all because their building has this attractive new front yard" (Trust for Public Land 1999, 19).

However, the value of urban natural capital and the landscapes with which it is associated goes well beyond property values and immediate economic return. In this respect, water bodies such as rivers, lakes and oceans are important contributors to urban landscapes in the West. Rivers flow through many prairie cities, and the major cities of British Columbia are situated on the coast. Although cities historically developed around major water bodies and river systems for practical reasons, water sources now form an important part of urban identities. Today, they are among the most important forms of natural capital, providing aesthetic values and recreational sites. In less than two decades, the rivers in the prairie cities have turned from industrial backyards to front yard showcases; Calgary's Prince's Island and the Forks in Winnipeg are but two examples. In Vancouver, the transformation of False Creek from an industrial backwater to one of Vancouver's prime residential neighbourhoods has had a dramatic impact on the urban landscape.

Urban parks and pathways are also important components of natural capital for western cities. For example, Calgary has more than 11,000 hectares (an area the size of Lethbridge) of parks, open spaces, and roadway greens, and 90% of Calgary residents regularly use area parks. Edmonton, with 460 parks and almost 14,000 hectares of open spaces, has more green space than any city in Canada, and its river valley, at 8,210 hectares, is the largest urban park in North America (it is 24 times larger than Central Park in New York City). Regina has almost 3,000 hectares of green space, and Vancouver's Stanley Park receives 8 million visitors a year. And, "the history and character of Victoria are so closely intertwined with Beacon Hill that no visit to the city would be complete without a visit to the Park. Small wonder that Beacon Hill is considered the jewel of Victoria's parks, and has been fiercely and proudly guarded in the last century and a half of Victoria's history" (City of Victoria 2003).

Natural areas in western Canada's cities are increasingly linked by well-developed pathway systems. Indeed, few North American cities have pathway systems that compare; in this context, Vancouver's sea wall stands out as a crown jewel. These pathways connect communities to greenspace, serving as both recreation sites and transportation corridors.

Innovative Urban Planning

The Urban Land Institute celebrates "Great Planned Communities" and features some of the best examples of innovation in the design and development of master planned communities from around the world (Gause 2002). McKenzie Towne in southern Calgary, by Carma Developers, won international accolades because of the community's design, focal points, open spaces and pathways. Many successful developers in western Canada take full advantage of natural capital features including rivers, lakes, wetlands, escarpments, pathways, parks, archeological sites, and city and mountain views. While some commentators are critical of urban sprawl on the Prairies, many newer communities have almost twice the density of the more traditional communities (seven units per acre versus four). Indeed, some of the best "Smart Growth" practices are being put to use right here in western Canada (Clark 2003).

For example, the 550 km Calgary pathway system connects to both Fish Creek Provincial Park in the city's far south and to Nose Hill Park in the city's north. The additional value that can be derived from urban pathway systems is nicely captured by the Prairie Pathfinders Walking Club of Winnipeg, which states that the city's pathway system "allows us to explore our province's beautiful landscape and history at the same time. Many of us are looking for an authentic heritage experience and are keen to explore our home turf. ... Walking connects us to the land with an intimacy that driving never can. Step by step along a footpath, the beauty of a landscape reveals itself and a rich part of our history is brought to life" (Prairie Pathfinders Walking Club 2003).

Urban forests, of which 80-90% are estimated to be in the yards of private residents rather than on city land, form another important part of urban landscapes, providing "...the primary interface between the vast majority of Canadians and their natural heritage" (Tree Canada Foundation 2003). In addition to their aesthetic and psychological values, urban forests help to conserve energy, provide wildlife habitat, buffer noise and reduce greenhouse gases. Trees also have an important monetary value; to give one specific example, the City of Edmonton reports that its current tree inventory is valued at over $800 million (City of Edmonton Parkland Services 2003). More generally, the Tree Canada Foundation writes that "urban forests have a substantial monetary benefit to the municipalities, provincial and federal governments (storm water attenuation, air quality mitigation, tourism, health care costs, etc.), to residents (property value, energy conservation, etc.) and business (tree care companies, nursery industry, aesthetics of retail areas, etc.). Internationally, many cities are recognizing that their urban forests will play an important role in their competitiveness to attract business and industry" (Tree Canada Foundation 2003).

A more subtle but still important natural advantage of prairie cities comes from the characteristically abrupt changes from an urban to a working landscape. Because of this abruptness we are able to take advantage of incredible "skyscapes." As Courtney Milne, a Saskatchewan photographer, states in the introduction to her book *Prairie Skies*, "Welcome to this glimpse of life under the big top. ...for prairie dwellers, the big blue roof, rather than setting limitations, is an invitation to reach a little higher" (Milne 1993). Nor for that matter should we underestimate the long-term aesthetic and economic importance of the vast wheat fields that abut Saskatoon, Regina and Winnipeg, the

rolling parkland and canola fields that are adjacent to Red Deer and Edmonton, the orchards and vineyards of the Okanagan or the vast ranchlands that provide incredible vistas south and west of Calgary.

There are, of course, other attributes of the urban landscape that add value to the quality of life in western Canada including views, escarpments, and gardens. The larger point to stress, however, is that urban landscapes are a critical piece of the West's natural capital. They are fundamentally important not only to the region's quality of life but also to the attraction and retention of human capital, and thus to economic competitiveness. The challenge is to ensure that urban landscapes are valued appropriately in local, provincial and national policymaking.

4. *WORKING Landscapes in the West*

When one pictures western Canada, it is the working landscapes that most often come to mind: fields of wheat, barley and canola; rows of fruit trees and grape vines; cattle ranches; trawlers and nets; oil pumps; and seemingly endless forests. This association of western Canada with its working landscapes should not come as a surprise for the West is a resource-rich region with much of its economic activity coming from resource industries.

In this respect, the three prairie provinces are often perceived to be primarily agricultural economies. While this perception is far from complete and fails to capture new urban realities, the prairies are indeed agriculturally rich. Of the country's dependable agricultural land, 73% is located in western Canada. Agricultural land is a relatively rare commodity in Canada, as only 8% of the national landmass is agricultural compared, for example, to 46% of the land in the United States (UN-FAO 2003). The low proportion of Canadian territory that is farmland provides a compelling argument to ensure that existing agricultural land is protected for future generations.

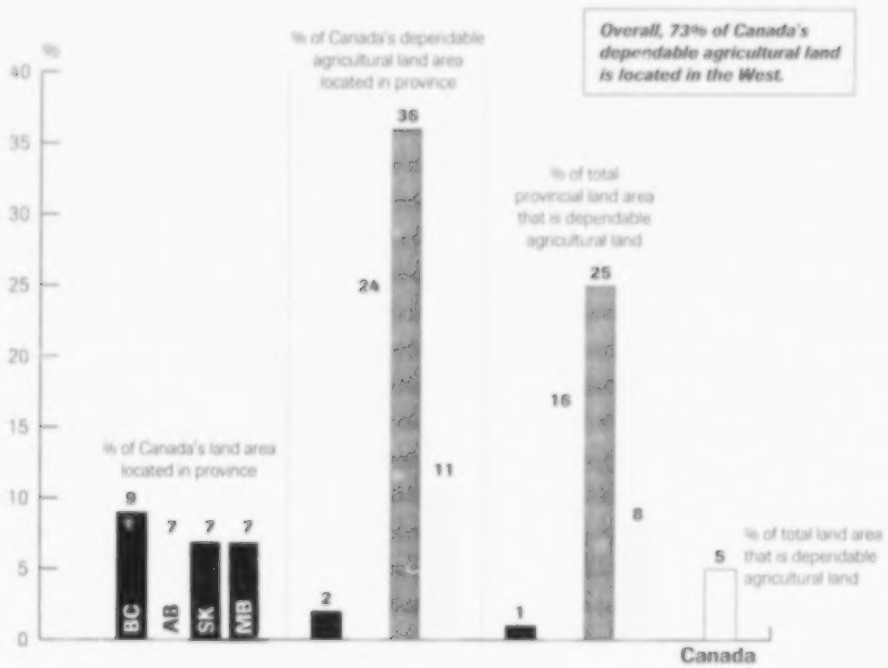
Canada also has 418 million hectares of forest, and most of the nation's original forest remains intact. In total, forests cover 45% of Canada's land base, and 58% of the land base in the West; Canada has converted only 6% of its forest land to farms and cities (Forestinformation.com 2003). Given this vast resource, it is not surprising that forestry is an important industry for western Canada, and in particular for British Columbia. Forest-related exports accounted for 45% of total BC exports in 2001, and approximately one third of Canada's forest exports in 2001 came from BC. By contrast, forest-related exports accounted for only 5-6% of prairie province exports in 2001 (Industry Canada 2003). In the early 1990s, the Canadian government increased expenditures on forest protection to $561.9 million. However, government spending on silviculture (the study, cultivation and management of forest trees) declined to $218.8 million by 1999, less than half of what it had been in 1990 (Statistics Canada 2002, 28).

Together, agriculture and forestry form by far the greatest part of the West's working landscapes. These activities are often seen as an intrusion on the natural landscape, which to a degree they are, but they are also intrinsic to the West's heritage, identities and economic prosperity. They are not simply impaired or compromised natural landscapes, for there is intrinsic beauty to these working landscapes when managed properly. The public policy challenge is to recognize the importance of these working landscapes, and to ensure that their foundations – the soil and forest resources – are sustained for generations to come.

5. *WILD Landscapes in the West*

Western Canada's wild landscapes are renowned for their breathtaking beauty. Vancouver Island and the Sunshine

Figure 1:
Dependable Agricultural Land in the West



Source: Statistics Canada, Rural and Small Town Analysis Bulletin, Vol. 2, No. 2

Coast, the Rocky Mountains, Cyprus Hills, the lakes of Saskatchewan and Manitoba, the vast golden prairies, the Okanagan Valley, the Alberta badlands – all generate a series of images, each as beautiful as the last, each unique in its own way. It is not surprising that many western Canadian wild landscapes are considered world-class treasures. Indeed, of the 13 Canadian sites protected by the World Heritage Centre of the United Nations Education, Scientific and Cultural Organization (UNESCO), eight are in the West.

The importance of wild landscapes is reflected in a strong parks system across the region. Of Canada's 40 national parks, 15 are in western Canada, and 74% of the total national park visitors in 2000/01 were to western parks (Statistics Canada 2002, 73-4). Canada's most popular national park, Banff, received over 4.6 million visitors in 2002. As Table 3 illustrates, there are also a large number of provincial parks in western Canada, along with other protected areas.

As the National Round Table on the Environment and the Economy writes, "Canada's natural riches are unparalleled in the world, creating both an opportunity and responsibility for it to act as a global steward. Canadians expect our parks

Table 2:
Provincial Parks, Protected Areas and Recreation Sites in the West (#)

BC	817
AB	500+
SK	203
MB	75*
Total	1,595+

*excludes recreation areas

Sources: British Columbia Parks Info Centre 2003; Alberta Community Development 2003; Saskatchewan Environment 2003; Manitoba Conservation 2003. Each province differs in its designation of provincial parks, recreation sites and protected areas, making comparisons across provinces difficult.

and special conservation areas to protect our natural heritage" (NRTEE 2003a). Western Canadian governments have taken this message to heart, with the West accounting for 44% of Canada's total protected areas. Indeed, each province in the West, with the exception of Saskatchewan, has a greater percentage of protected area than the national average: BC (11%) and Alberta (10%) have larger proportions of protected area than any other province. Overall, the total protected area is growing in all four western provinces, and this growth has been particularly impressive in Manitoba (Statistics Canada 2002, 64). However, when we compare Canada as a whole to other countries, Canada is hardly leading the pack – the United Kingdom, Germany and Denmark all have a larger percentage of protected areas.

Wild landscapes are important for a number of economic and lifestyle reasons. First, western Canadians value the aesthetics of their wild landscapes: their sheer beauty cannot be overstated. Second, westerners value the landscapes for recreational purposes – walking, hiking, camping, skiing, snowboarding, canoeing, kayaking, fishing, hunting, mountain biking, snowmobiling, rock climbing, picnicking and swimming all contribute to quality of life and physical wellbeing. Third, there is a great deal of economic activity and potential in the region's wild landscapes. Tourism to wild landscapes is an important component of the regional economy, and one that is seen to have tremendous growth potential should the beauty and integrity of the wild landscapes be preserved. Finally, as part of living systems, wild landscapes can have an important impact on water availability as the security of western Canada's water

UNESCO Sites and National Parks in Western Canada

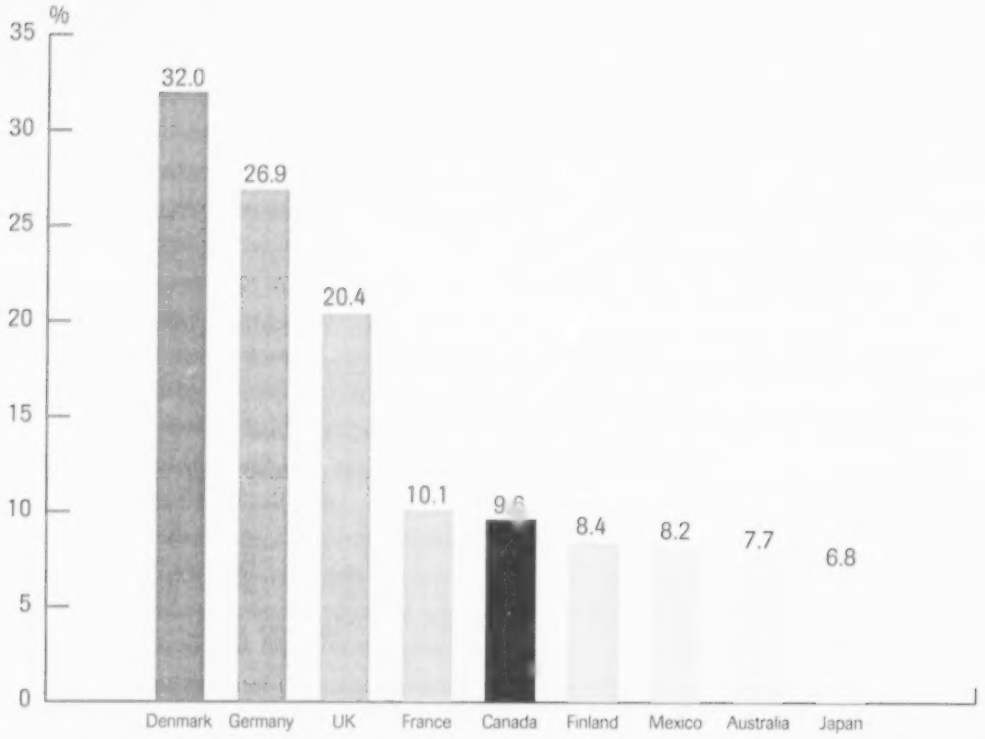
UNESCO sites:

Dinosaur Provincial Park (AB), Sgaang Gwaii/Anthony Island (BC), Head-Smashed in Buffalo Jump (AB), Wood Buffalo National Park (AB and the NWT), the Canadian Rocky Mountain Parks (AB and BC), Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek (BC, YK and Alaska), and Waterton-Glacier International Peace Park (AB and Montana).

National Parks:

Riding Mountain (MB); Wapusk (MB); Grasslands (SK); Prince Albert (SK); Banff (AB); Jasper (AB); Waterton Lakes (AB); Elk Island (AB); Wood Buffalo (AB and NWT); Gwaii Haanas and Haida Heritage Site (BC; site pending Aboriginal land claims settlement); Mount Revelstoke (BC); Glacier (BC); Pacific Rim (BC); Yoho (BC); Kootenay (BC) and Gulf Islands (BC).

Figure 2:
Major Protected Areas (% of total area)



Source: OECD 2002

system is jeopardized if wild landscapes are not preserved. Overarching all these reasons is the indisputable fact that Canada's wilderness is part of who we are. Our identities, both national and regional, are grounded in wild landscapes.

Wild landscapes, of course, are also important far beyond the human community for they are home to the region's many wild animals. For example, the southern prairie region alone is home to 325-361 different terrestrial species, making it one of the richest species areas in Canada (Nature Conservancy of Canada 2003). Although the continued viability of wild animal populations and the wilderness areas on which they depend is a responsibility we all share, there are troubling signs that human practices have put some species at risk. In particular, the killer whale, peregrine falcon, grizzly bear, bighorn sheep, and humpback whale are being watched carefully. And, it must be remembered, wildlife also includes plant life. There are thousands of species of plants and fungi in western Canada, some of which are also at risk. Finding public policy frameworks within which wildlife and human activity can co-exist is a challenge that must be met.

In combination, the West's urban, working and wild

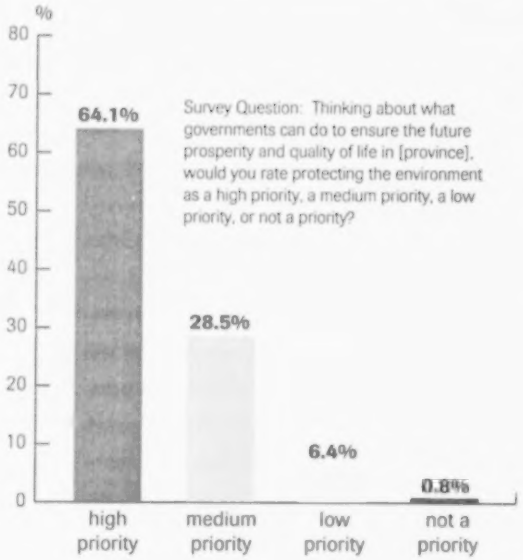
landscapes constitute the region's natural capital. Any reflection on the West quickly reveals just how important this natural capital is to our quality of life, economic prosperity and international competitiveness. The challenge is to embed these landscapes in the West's public policy frameworks.

6. How do western Canadians feel about natural capital?

There is little doubt that western Canadians care about natural capital. Indeed, numerous public opinion surveys across western Canada have demonstrated this commitment. For example, the Canada West Foundation's *Looking West 2003* survey, which was conducted in January and February 2003 with 3,200 western Canadians, found a very high level of concern for the environment (Berdahl 2003). Survey respondents were asked, "Thinking about what governments can do to ensure the future prosperity and quality of life in [province], would you rate protecting the environment as a high priority, a medium priority, a low priority, or not a priority?" A full six in ten respondents rated protecting the environment as a high priority, and another three in ten rated it as a medium priority. Of the thirteen policy fields examined in the survey, protecting the environment ranked third in the number of respondents rating it as a high priority – well ahead of education, economic diversification and lowering taxes.

The *Looking West 2003* survey also found that western Canadians do not see environmental protection as a barrier to a strong and vibrant economy. Respondents were asked to agree or disagree with the statement: "It is possible for [province] to have both a strong economy and strong environmental protections." This question received a particularly emphatic response: over nine in ten western Canadians agree that the two can co-exist, and almost two-thirds strongly agree with the statement. Responses are high

Figure 3:
Protecting the Environment is a Priority for Western Canadians



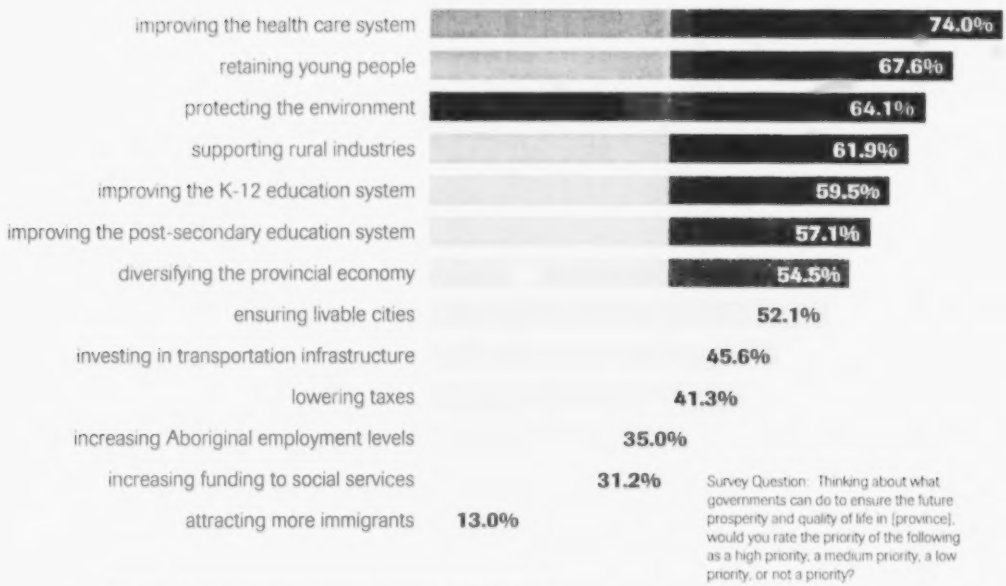
Source: Canada West Foundation *Looking West 2003* survey

across all four provinces, and across all socio-demographic categories. Given these responses, it is not surprising that the *Looking West 2003* survey found high levels of support for specific environmental policies, including promoting water conservation through full-cost pricing and limiting urban sprawl. Clearly, western Canadians are concerned about their environment, and would likely support greater public policy attention to natural capital.

7. Why does a natural capital framework make sense for western Canada?

Western Canada needs to sustain and build its natural capital for one simple, compelling reason: ***it is in the region's long-term interests to do so.*** The preservation of

Figure 4:
"High Priority" Policy Areas in the West



Source: Canada West Foundation *Looking West 2003* survey

natural capital adds to the region's long-term health status, recreational opportunities, education and research potential, and general quality of life. As David J. McGuinty, President and CEO of the National Roundtable on the Environment and the Economy (NRTEE), explains, "In a global economy where labour mobility is common, especially among skilled workers who play an essential role in fostering innovation, a healthy environment becomes part of a country's competitive advantage to attract and retain those skilled workers by providing a high quality of life. Given Canada's outstanding natural geography and wealth in wilderness, clean water and fresh air, the acceleration of urban congestion and depletion of natural capital worldwide, Canada has an opportunity to be a global pioneer in the integration of our economic growth with the stewardship of our natural capital" (McGuinty 2002). Nowhere does this argument apply with greater force than in western Canada. In addition, sustaining and building natural capital will benefit both current and future industries. Today, many of our leading industries are being criticized within and outside western Canada because they have lost focus on just how important land and water resources are. For example, the reputation of the oil and gas industry has steadily worsened over the last number of years, a matter of considerable concern for industry associations (CAPP 2003). In a recent Ipsos-Reid report in which the public rated different industries on their environmental performance, energy companies rated lower than other industry sectors (Ipsos-Reid 2002). This poor public perception frustrates many energy leaders. As one oil industry executive states, "We have significantly better management and practices than ever before; better communication with the landowners;

more professional resources dedicated to environmental management than ever before; better regulations ensuring environmental protection and stakeholder consultation. Our reputation should be better not worse" (Luff 2003).

It is not just the oil and gas sector that faces reputation problems. The unsustainable practices of the Alberta forestry sector were discussed in *National Geographic:* "The volume of logging has increased tenfold since 1960, when 96% of the province was essentially wilderness. Today after an oil and timber boom spurred by the United States' appetite for natural resources, the situation has reversed, with less than 10% of the province's boreal forest existing in swaths larger than a few square miles" (Montaigne 2002, 53).

Agriculture also has a growing reputation problem. Price (2003, 35), for example, criticizes the growth and effects of intensive livestock operations for both cattle and hogs: "...the small family farm is no longer economically viable. ...If you don't have several thousand head in a confined operation, you can't make a living." In 2002, the Natural Resource Conservation Board received 981 complaints involving 431 confined feeding operations (Price 2003, 36). And in spite of new government regulations, better management practices, and innovative water monitoring programs on watersheds, southern Alberta has some of the highest levels of fecal coliform bacteria in Canada – all in areas with high livestock populations (Price 2003, 37). Even the land development companies and the municipal governments that write the zoning regulations within which land developers work are being criticized for a lack of vision when it comes to the use of prime agricultural lands on the prairies.

These are all examples of the challenges western Canada faces as a consequence of economic growth and success. Some would even argue that the western provinces have become successful at the expense of our land and water resources.

When City and Country Collide

"An Alberta Agriculture report on farmland fragmentation recently identified country residential development along Highway 2 as the single largest pressure on Alberta's agricultural land. Municipalities in the corridor experienced 2 to 10 times more subdivision pressure than other municipalities and about half the subdivided property was high quality farmland. The consequence is skyrocketing land prices fueled by aggressive speculation ... the ability to continue farming or ranching on such high priced real estate is next to impossible..." (Duckworth 2001, 1).

Harvie Buckley, a long-time rancher who is a member of the Alberta Agriculture Hall of Fame, states: "We can combat and survive BSE [Bovine Spongiform Encephalopathy or "mad cow disease"], drought and bad markets, but we can't survive subdivision. We can't replace land" (Buckley 2003).

The good news is that western Canada has considerable public policy strengths on which to build. Indeed, it can be argued that the West is already 80% successful in terms of sustaining and building natural capital. The risk is failing to build on these strengths – moving to 90% or 100% - or, even worse, of eroding these strengths and moving backwards. Loss of momentum would be regrettable for the preservation of natural capital opens up a world of opportunities – from wilderness and heritage tourism to sustainable agriculture and forestry, and knowledge industries – to address the West's longstanding need for economic diversification to moderate the inevitable swings in a resource-based economy. Our leadership in the conservation of natural capital will not only build the social license of our resource

Opportunity for Leadership

The preservation of natural capital would allow western Canada to be a celebrated and recognized world leader, known as much for its world-class landscapes and conservation efforts as for its other strengths. Such opportunities will be lost if natural capital is significantly eroded.

Western Canada's prosperity depends on our ability to balance the long-term growth of the economy with the urban, working and wild landscapes we all cherish. An increasingly competitive global economy leaves us no choice. People will choose to live here because of our quality of life, people will choose to visit because of our natural capital, people will choose to buy our products because of the quality of products we export. Building, sustaining and celebrating natural capital is not only integral to quality of life in western Canada, it is indispensable for economic prosperity.

sectors to operate, it will also ensure we realize the future energy potential from the tarsands and northern Canada.

Yet there is no denying that growth in western Canada is having a significant impact on our landscapes. Resource industries are finding it increasingly difficult and expensive to access public and private lands for their activities. The wasteful land and water consumption habits of western Canadians – reinforced by a frontier ethic that assumes that land and resources are unlimited – exacerbate this impact.

Given these challenges, it is not surprising that individuals from all corners of the community – ranchers, farmers, Aboriginal leaders, land developers, urban planners, oil executives, forest companies, wildlife biologists, tourist operators, and environmentalists – are all expressing concern about the region's natural capital.

There is, however, an opportunity to bring these interests together within a natural capital framework that puts land and water at the core of our policy and planning processes. A framework that celebrates, measures and sustains natural capital could connect our solitudes. Quite simply, we need a framework that works carefully, yet deliberately, towards increasing the value we place on our urban, working and wild landscapes.

Unfortunately, debate in the region is often presented in terms that juxtapose rather than marry long-term economic prosperity and natural capital protection. Environmental protection is currently framed as a constraint on prosperity rather than as a precondition for prosperity. Moreover, it is framed in a way that fails to capture the powerful emotional attachments that western Canadians have to provincial landscapes – urban, working and wild – and thus constrains action and leadership. For this reason, we need a new way of looking at the role of natural capital for long-term prosperity: we need a natural capital framework.

8. What might a natural capital framework mean for western Canada?

While one may accept that western Canadians, their businesses and their governments need to reconsider the importance of natural capital to the region's present and future quality of life, the public policy implications of this paradigm shift may not be immediately clear. What is needed, therefore, is a framework of principles that can inform public

policy, a natural capital framework that is both an action plan and a "lens" through which governments, businesses and individuals can examine both current and potential activities. For the framework to be successful, it must be acceptable to a wide variety of audiences. To be certain, these groups will not (and cannot be expected to) agree on the details of what would constitute an ideal natural capital framework. Our more limited ambition is to identify some core elements that can serve as a starting point for an evolving policy debate. The goal at this point is to provoke constructive dialogue, not to generate concrete policy recommendations. At the same time, the challenge is to ensure that the natural capital framework provides vision and leadership, rather than a simple re-affirmation of current practices.

Element 1: Recognize and celebrate natural capital

Governments, industries and citizens must recognize the value of land and water to their province, and find ways to celebrate the importance of that natural capital. While this framework element may seem to be the most obvious, it provides the foundation for moving forward. Indeed, it could be argued that many of the challenges and threats facing natural capital in the West stem from a lack of recognition of the pivotal role land and water play in our quality of life and economy. Some of our frontier ethic still remains from a time when land was cheap, and water was free and plentiful. Taking natural capital for granted sets the stage to forget or ignore the need to protect and sustain our urban, working and wild landscapes.

For the general public, recognition of natural capital means just that: improved understanding of the role of landscapes in their personal quality of life and wellbeing. For governments and industries, it means explicit recognition, both in written statements and across the larger organizational structure. Conscious, explicit recognition of natural capital creates a significant shift in thinking. A company that has among its core values a commitment to maintaining the landscapes in which it works is less likely to cause environmental damage. A government department with an explicit commitment to protect and sustain natural capital is more likely to enact environmentally-positive policies. And a Premier, Mayor or Prime Minister who has publicly vowed to ensure the long-term wellbeing of natural capital is more likely to evaluate his or her government's actions through that lens. Although recognition by itself is not sufficient, it provides the foundation for a natural capital framework upon which other elements can rest.

In addition to recognition, it is important that western Canadians celebrate their urban, working and wild landscapes. These landscapes have contributed greatly to provincial identities, and we believe that western Canadians want their grandchildren's grandchildren to be able to enjoy these landscapes. Actively celebrating natural capital would thus re-energize westerners'

Photo: Robert Roach

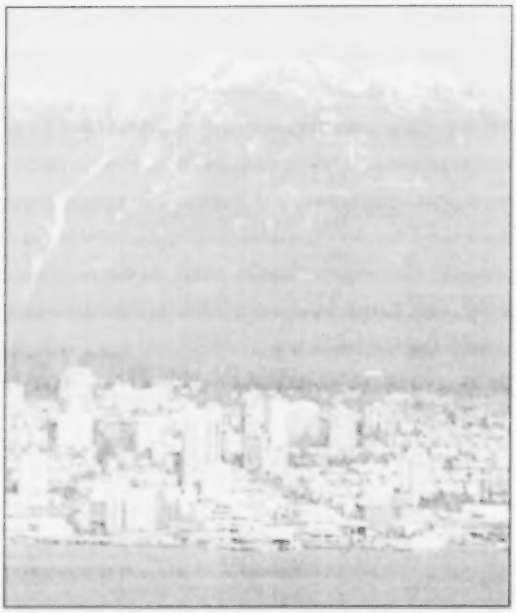


Photo: Robert Rauch

enthusiasm for their landscapes and provide powerful images of their province's strengths and strategic direction. It could have a dramatic impact on western Canadians' self-image, connecting current prosperity to positive futures. Celebrating natural capital will help create a new language for describing western Canada's relationship to its natural resources – a balance sheet that includes natural, produced and human capital.

What might celebration of natural capital mean? The possibilities are endless. For example, Alberta and Saskatchewan could choose to link their 2005 centennials to a celebration of the land, and how the land has tied generations together. A school in Manitoba might choose to have a student essay contest, with children writing stories about their favourite landscapes. A Vancouver Island newspaper might hold a photo contest, with amateur and professional photographers alike submitting photographs of the landscapes that touch them the most. A national radio program might invite famous authors to read essays on their perspectives on the land. Clearly, there is no single way to celebrate natural capital; the means are as varied as the regional fauna.

Element 2: Measure and track natural capital provincially and locally

An adage in public policy circles is that what gets measured gets managed. Governments, businesses and the general public find it easiest to think in concrete terms, noting positive or negative changes in numerical values. Thus, as a society we have developed a number of economic and social measures that allow us to assess how our cities, provinces and country are doing. Over time, a shorthand understanding has evolved around these measures: rapid inflation suggests economic trouble, while low unemployment suggests economic strength; low infant mortality rates indicate health and prosperity, while low educational rates would indicate poverty. The frequent measurement of these indicators, and the public understanding of their meaning, result in sustained pressure on governments, businesses and non-profit organizations to respond to needs and perceived crises.

Empirical measures allow us to track change over time and space, and they signal a set of underlying societal values. Unfortunately, at the present time the key indicators of western Canadian wellbeing look only at produced and human capital, and fail to include the balance with natural capital. Thus we need simple and effective measures to assess the health and sustainability of the region's natural capital.

Of course, different measures are needed for different landscapes. For wild landscapes, there is a need to track the amount of land devoted to parks and protected areas, the

health of key wildlife (e.g., ecosystems and native grasslands), and water availability. For working landscapes, there is a need to track ecological footprints and agricultural sustainability (soil health, changes in land use patterns and agricultural lands lost to urbanization and/or industrial growth), timber sustainability, and water use and quality. For urban landscapes, the need is to track urban density, air quality, lands devoted to parks and greenspaces, the length and continuity of pathways and trails, and water availability, use and quality.

Fortunately, models are being created for tracking natural capital. For example, Mark Anielski created a comprehensive Genuine Progress Indicator (GPI) that can measure, in an integrated manner, the condition, sustainability and monetary costs and benefits of human, produced and natural capital (Anielski 2001). The National Roundtable on the Environment and Economy recommends regular reporting on five natural capital indicators:

- **Air Quality Trend Indicator:** a population-weighted measure of exposure to ground-level ozone;
- **Freshwater Quality Indicator:** a national sample of the state of water quality;
- **Greenhouse Gas Emissions Indicator:** the national total of annual emissions of greenhouse gases;
- **Forest Cover Indicator:** the percentage of Canada's total ground area that is covered by forests; and
- **Extent of Wetlands Indicator:** the percentage of Canada's total ground area that is covered by wetlands (NRTEE 2003b).

Although these indicators do not constitute a comprehensive list, they provide a useful start.

The Alberta Government is also beginning to look at natural capital indicators, and at ways to embed such measures in government business plans. For example, Agriculture, Food and Rural Development has developed indices for land productivity and water quality. Alberta Environment has indices for surface water quality, drinking water quality, and air quality.

Who should be doing the measuring? In a word, everyone. Researchers, non-profits, governments and businesses can all measure the health of the environment, and the impact of their actions on the environment. These data would ideally be coordinated (to reduce duplication of efforts) and aggregated for easy public access. In addition, these data should be collected regularly (in some cases annually), and widely publicized in a simple, publicly understandable format.

Element 3: Commit to protect, manage and build natural capital

After recognizing, celebrating and measuring natural capital, the next step is for individuals, governments and industries to commit to doing their part to protect, manage and build natural capital. As noted earlier, in public debates the environment and the economy are often positioned as opposing interests, the rhetoric suggesting that economic interests by definition will result in environmental destruction, and that environmental protection will by definition restrict the performance of the economy. As the survey findings discussed earlier demonstrate, the vast majority of western Canadians do not accept this polarization.

However, having both a strong economy and a healthy environment, in other words enjoying environmental prosperity, requires conscious thought, planning and action. It requires governments and industries to look beyond short-term interests to consider the impact on their province

and/or their industry 20, 40 or 100 years out. It also requires individuals to look at their own actions – including water and land use – to see if they are contributing to environmental damage or sustainability. Achieving both a strong economy and a healthy environment will not happen by chance or through half-hearted efforts. It will require commitment, and it will require action.

Government Action

For governments, the key is land and water use policies that serve the long-term interest of the public. As demonstrated earlier, three of the four western provinces have protected impressive proportions of their land area, and in all four there has been growth in protected areas since 1989. This growth needs to continue. Outside of protected areas, the most significant need is for governments to balance and coordinate their land use policies and practices. Municipalities (urban and rural) need to coordinate their growth plans in order to protect agricultural areas, and to identify commercial and rural residential zones. There is also a need for up-to-date, province-wide integrated resource management plans, a foundation for which exists in BC and Alberta.

Photo: Robert Krutch

In BC, Land and Resource Management Plans (LRMP) were initiated in 1993 and have been developed for more than 70% of the province's land base. To date there are 26 Regional Land Use and Land Resource Management Plans finalized or in progress (British Columbia Ministry of Sustainable Resource Management 2003). The LRMPs develop broad strategic objectives with the aim to balance the well being of communities, economies and ecosystems. A completed LRMP reflects sustainable solutions for the benefit of present and future generations.

In Alberta, over 60 sub-regional and local Integrated Resource Management plans were developed in the late 1970s through the 1990s (Alberta Environmental Protection 1993). The plans were "intended to be a guide to resource managers, industry and the public with the responsibility or interests in the area rather than as a regulatory mechanism. Resource potential and opportunity for development are identified with the view to assisting economic progress of Alberta" (Alberta Forestry Lands and Wildlife 1987). The plans served Alberta well for many years but now require updating in light of the province's growth and prosperity. In March 2003, the Government of Alberta circulated a draft "Northeast Slopes Sustainable Resource and Environment Strategy." The strategy, which has yet to be adopted, is a good example of a comprehensive approach to integrated resource management, one that addresses multiple land uses and considers cumulative impacts.

In updating their integrated resource management plans, provincial governments may wish to consider the Sustainable Landscape Plans framework proposed in the

draft Alberta northeast slopes strategy. The framework provides consistent planning where integration between sectors and values is required. These landscape plans offer an efficient method to integrate various objectives in the face of multiple (and often conflicting) land uses. In areas of potentially rapid land use change, they would ensure that land use respects sustainable social, environmental and economic limits (Regional Steering Group 2003).

In all cases, land and water use planning requires a robust information base that can be used to predict and manage existing and emerging challenges. One of the best tools, developed by Dr. Brad Stelfox, is the ALCES (A Landscape Cumulative Effects Simulator) model, which helps identify, predict and address cumulative environmental effects. Although the ALCES model was developed by the Alberta Chamber of Resources and initiated by Alberta Pacific Forest Industries Inc., governments in western Canada are using the ALCES tool across a number of applications.

Another policy tool to consider is transferred development rights, which have been used effectively in the United States. These rights stem from local ordinances that create preservation areas (known as "sending areas") and development areas (known as "receiving areas"). Landowners in the preservation areas receive development right credits, which they can sell to real estate developers, speculators or governments. The purchasers of the development right credits can use them to develop lands in the development areas (Trust for Public Land 1999). Transferred development agreements permanently protect land from development pressures while allowing the landowner to receive estate and tax benefits, and to be paid to protect their land. While the costs of these programs are low, they do require a strong real estate market open to higher density development. The best example of transferred development rights is in Montgomery County, Maryland, near fast growing Washington, D.C. The county established its transferred development rights program in 1980, prior to which it had been losing an average of 3,500 acres of farmland per year to development. After the establishment of the program, the amount of farmland lost to development dropped by approximately 92%.

One major principle that all governments should consider is "no net loss," an approach that has been used for years across a number of countries and applications. Fisheries and Oceans Canada has adopted the guiding principle of "no net loss of productive capacity" for its wetlands policy, and the wetland policy of the European Union is also designed to ensure no net loss of wetlands (Commission of the European Communities 1995). In Australia, the Natural Heritage Trust was created in 1997 with a national goal "to reverse the long-term decline in the quality and extent of Australia's native vegetation cover," with a performance indicator that stated "the rate of native vegetation

establishment in Australia exceeds the rate of vegetation clearance" (Government of Australia 2003).

Clearly, there are a number of policy tools that governments can consider to protect and manage natural capital; what is needed is greater action and commitment.

Business Action

A number of steps can be taken by businesses to protect and manage natural capital; indeed, several resource industries have been leaders in this area. For instance, the concept of sustainable development has been adopted by many leading companies in western Canada including BC Hydro, Shell Canada, Alberta-Pacific, Transalta, Suncor Energy, Nexen Energy, and PetroCanada. The tenets of sustainable development require a company to integrate the economic, environmental and societal aspects of the business. While the concept may vary from company to company, the Royal Dutch Shell Group of Companies' sustainable development principles are a good example of how a resource company balances long and short-term goals. Their principles include: generating robust profitability; delivering value to customers; protecting the environment; efficient use of natural resources/managing resources; respecting and safeguarding people; benefiting communities; and working with stakeholders.

Industries can also commit to ensuring that their actions have "no net impact" on the landscape, or better still that their actions result in a "positive net impact" – water is cleaner, lands are better protected, soil quality is improved. In western Canada, resource companies have been adopting no net impact policies on a more regular basis. For example, companies like Alberta-Pacific Forest Industries Inc. (Al-Pac) and Weyerhaeuser are managing forestlands in new and innovative ways. As Al-Pac's website reports: "Alberta-Pacific is a world leader in the forest industry, using today's best technology to produce Elemental Chlorine-Free (ECF) kraft pulp while keeping far below limits for emissions. We also practice some of the world's most innovative forest management approaches, such as ecosystem management, looking beyond the trees to the forest as a whole in order to maintain biodiversity" (Alberta-Pacific Forest Industries Inc. 2003).

Al-Pac has supported the development of the ALCES model noted above, and has helped to establish the Integrated Landscape Management program at the University of Alberta. Some of Weyerhaeuser's leading edge forest practices for partnerships, trapping management, employment, business alliances, education and training are winning kudos from the Aboriginal community. Weyerhaeuser has also won awards for caribou preservation (2001 Alberta Emerald Award), and for its approach to environmental responsibility, community support and financial success (Alberta Triple Bottom Line Award of Distinction). Its practices spare old growth forests, protect important landscapes, and maintain wildlife and ecological values. Weyerhaeuser's sensitivity to the

landscape and its long-term values are exemplified by a Memorandum of Understanding the company signed with Jasper National Park, in which the company recognized the potential importance of 5,342 hectares of its Forest Management Agreement that is adjacent to Jasper Park and committed to delay, study and undertake future operations in a cooperative manner that does not impact the integrity of the park (Weyerhaeuser 2000).

To provide another example, Shell Canada has made a commitment to sustainable development and biodiversity in its southern Alberta Waterton operations (Shell Canada 2003). The company has voluntarily reduced activities in many environmentally sensitive areas. In addition to not building roads and drill sites in a number of sensitive canyons and riparian areas, Shell Canada has set a goal of "no net increase" in public access to the area. In essence, if the company builds roads, well sites or pipelines in one area, they have committed to a net positive impact across the region as a whole.

Non-Profit and Citizen Action

Protecting and managing natural capital should not be solely the purview of governments and industries. To the contrary, non-profit organizations and individuals have a substantial role to play. Indeed, non-profit initiatives have emerged as a result of growing dissatisfaction with the public sector and its lack of success in protecting land from development. Many believe that public sector land conservation techniques have failed to protect important parcels of environmentally sensitive areas, prime agricultural land, heritage sites and recreational land. These areas usually have particular significance to specific communities who do not wish to see them lost to development.

One role that individuals can play is through land donations. The Ann and Sandy Cross Conservation Area (ASCCA) is one of the best examples of individual leadership in building natural capital. ASCCA consists of 4,800 acres of rolling foothills land donated by Ann and Sandy Cross for the protection of wildlife habitat and conservation education. Located just southwest of Calgary, the area prides itself for ecological integrity and environmental leadership. Another example is the Old Man on His Back Prairie Reserve in Saskatchewan, one of Canada's largest areas of pristine native grass that has never been cultivated and that is home to a number of species at risk. This reserve encompasses 13,000 acres, 10,000 of which are owned by the Saskatchewan government. Peter and Sharon Butala donated 1,000 acres to the Nature Conservancy of Canada (NCC) and sold the remainder to the NCC and Saskatchewan Agriculture; after the purchase, the Butalas then donated a large portion of the proceeds back to the NCC. The NCC now manages the land, in partnership with Saskatchewan Environment and Saskatchewan Agriculture. According to Sue Michalsky of the NCC, this innovative conservation project was made possible because of the

mandate of Saskatchewan Agriculture to support conservation practices where compatible with agricultural activities. The Butalas were given a Countryside Canada award for their generosity

Not everyone has land to donate to conservation, but that does not limit their ability to help build natural capital. Through land trusts, groups of individuals can buy land for protection. Land trusts have been operating to preserve land and cultural heritage for over a century. In the United Kingdom, the National Trust was founded in 1894 as a private non-profit charity to protect ecologically, culturally and historically significant landscapes in urban and rural areas. The Trust acts "as a guardian for the nation in the acquisition and protection of threatened coastline, countryside and buildings." Its holdings now encompass 248,000 hectares of land, 600 miles of coastline, and more than 200 buildings and gardens (National Trust). The Trust has 4,000 staff and 38,000 volunteers.

Land trusts are typically characterized as non-profit (charitable) public interest conservation organizations. They can operate from national to local levels, and their charitable status makes them eligible for funds from foundations and more attractive to individual and corporate donors. Because government control is often cumbersome and ineffective, private land trusts play a vital role is conserving important landscapes. Montague (2002) writes: "Free market enthusiasts support trusts because they move power out of the hands of government and introduce business-like efficiencies into the conservation of natural resources. Supporters of traditional environmental regulation find private trusts appealing because they offer clarity of purpose and a level of predictability that is not present with government regulation. Land trusts offer an alternative to development – allowing forest land (ranchland, farmland) to remain as a productive component of the local economy and ecology, while compensating the landowner for the opportunity cost of not developing the property."

Land trusts use a variety of stewardship techniques to protect open space, wildlife habitat, recreation and heritage sites. These can include simple fee purchase, bequests, donations, conservation easements, land management, technical assistance, education and participation in public policy.

While we have now had land trusts in Canada for several decades, it is only in recent years that a land trust "movement" has begun to emerge across the country. In the United States, where the land trust movement has existed for over 100 years, there are over 1,200 land trusts in operation, making land trusts the fastest growing segment of the American conservation movement. It is estimated that one new land trust is added each week in the US (Trust for Public Land 1999).

The principal tax incentive program to encourage land

Examples of Western Canadian Land Trusts and National Land Trusts with Offices in the West

- *Canadian Nature Federation* (www.cnf.ca)*
- *Land Conservancy of BC* (www.conservancy.bc.ca)*
- *Wild Bird Trust of British Columbia (www.wildbirdtrust.org)*
- *Cowichan Community Land Trust Society, Duncan BC (www.island.net)*
- *Discovery Coast Greenways Land Trust, Campbell River BC (www.greenwaystrust.ca)*
- *Habitat Acquisition Trust, Victoria BC (www.hat.bc.ca)*
- *Nanaimo Area Land Trust, Nanaimo BC (www.nalt.bc.ca)*
- *Ducks Unlimited* (www.ducks.ca)*
- *Land Stewardship Centre of Canada,* Edmonton AB (www.landstewardship.org)*
- *Nature Conservancy of Canada* (www.natureconservancy.ca)*
- *Trans Canada Trail Foundation* (www.tctrail.ca)*
- *Parks Foundation, Calgary AB (www.parksfoundationcalgary.ca)*
- *Meewasin Valley Authority, Saskatoon SK (www.meewasin.com)*
- *Burns Bog Conservation Society, Delta BC (www.burnsbog.org)*

** Ecogift qualified*

stewardship in Canada is the federal Ecological Gift (Ecogift) Program, administered by Environment Canada (see www.on.ec.gc.ca/ecogifts/egogifts-e.html). Inclusion of capital gains on income has been reduced to 25% (from 50%) for donated land that qualifies as ecologically sensitive. Lobbyists are currently seeking to have the capital gains provision removed in order to provide landowners with a greater incentive to donate their properties, and to have cultural landscapes and urban greenspaces included in the Ecogift category. These improvements would bring this incentive program more in line with its UK and US counterparts.

A number of land trusts in western Canada present important opportunities for the region. Being smaller and more focused, land trusts are able to operate in a more efficient, less expensive, yet more responsive way than traditional land conservation efforts. They enjoy a high level of public popularity due to the fact that they can tailor their efforts to the local situation and local concerns, and better involve and empower local people to be part of conservation solutions in their area. The Evergreen Common Grounds Land Trust, a Canadian land trust that seeks to protect key natural areas in urban centers and supports a country-wide network of local urban land trusts, puts the case in the following words: "The key to success of the land trust concept is: first its recognition of private property rights and the private market; and secondly, its voluntary nature. Land trusts work within the existing regulatory framework and generally in a coordinated way with local governments and the planning process. They may assist governments in purchasing land for parks and sites for protection with donations for which the donor obtains a tax benefit" (Evergreen Common Grounds Land Trust 2003).

Non-profit action can be supplemented by individual and government actions through donated conservation easements or purchased development rights. Donated

conservation easements are voluntary legal agreements between a landowner and a land trust or local government agency that allow landowners to permanently limit or prohibit development on their property. Conservation easements run with the title so that all future owners of the land are bound by the original agreement. Some of the advantages of conservation easements are that they permanently protect land from development pressures, allow land to stay in private ownership, cost very little in terms of government funding, and provide income, estate, and property tax benefits (Friends of Minnesota 2003).

Two organizations in western Canada that employ conservation easements are the Nature Conservancy of Canada and the Southern Alberta Land Trust (SALT). SALT is a "rancher-driven non-profit organization that is dedicated to ensuring that the environmental and agricultural qualities of the province's landscapes remain an integral part of the province's natural heritage" (SALT 2003). In addition to land conservation (via easements), SALT is actively involved in ranch succession and estate planning as well as education and cooperation.

Purchased development rights are voluntary legal agreements that allow owners of land meeting certain criteria to sell the right to develop their property to local government agencies, the provincial/state government, or to a non-profit organization. A conservation easement is then placed on the land. This agreement is recorded on the title to permanently limit the future use of the land to agriculture, forestry, or other open space uses. Similar to donated conservation easements, purchased development rights permanently protect lands from development, ensure continued private ownership, and provide income, estate, and property tax benefits (1000 Friends of Minnesota 2003). In addition, purchased development rights allow local governments to target land protection. However, because purchase is involved, these rights can be costly to governments. While there are not yet any Canadian examples, a purchased development rights program in the U.S., run by the Agriculture Preserve Board of Lancaster County, Pennsylvania, has preserved over 23,500 acres of farmland since 1981 (Trust for Public Land 1999).

The larger point to stress is that governments, industries, non-profits and individuals need to commit to protect, manage and build natural capital. Success in this area will not happen by accident; it requires commitment, planning and action.

Element 4: Respect and protect dominant land uses

If one were to look down at western Canada from a satellite, there would be a number of obvious images: an ocean on the west coast, the Rocky Mountains, boreal forest in the north, plains in the prairie provinces, large water bodies, and extensive urban areas. These images are important as we look at developing a common vision for land use in the

future, and working together in developing strategy and policy that will move us toward that vision.

For each of the land areas, there is a dominant land use: the mountains are water towers and wild landscapes, the forests are sites of wild landscapes and forestry, the prairies are sites of agriculture, and the urban areas are hubs of human life and activity. There is no denying the long-term value of each of these land uses. The challenge is to respect and protect dominant land uses. In other words, we need to be certain to avoid turning rich agricultural lands into urban land, just as we need to be certain that our land use practices in mountain areas do not reduce the water potential of mountains.

The western provinces have each adopted a "multiple land use" model for public lands, a model that encourages maximum activity. For example, Alberta's integrated resource plans and eastern slopes policy divide much of the province into zones where land use activities occur. In some areas tourism, recreation, oil and gas development, logging, and cattle grazing can all be occurring on the same land base. While the zoning has encouraged multiple land uses, some areas have appropriate and necessary restrictions (e.g., Zone 1 land is set aside for prime protection, Zone 3 land is designated as critical wildlife habitat). To date, the multiple use models have worked well in resource-rich western Canada. However, conflicts with the current multiple land use model are increasing significantly because of our success in exploiting our natural resources as well as the demands of an increasing population. The experience from other highly populated areas provides direction to western Canada - we need to be more selective with how we use our land. The land cannot be all things to all people.

Photo: Todd Hirsch

The notion of a dominant or more selective land use model provides some future direction for western Canada. In terms of the prairies, for example, attention must be paid to protecting the long-term agricultural potential of lands where the chernozemic soils are amongst the most productive in the world. Although agriculture is declining in relation to other industries, western Canada's agricultural land base will continue to be a key resource for the region into the next century. The challenge is to ensure that this land base is maintained and protected.

Once agricultural lands have been converted from their original land use, they are lost: agricultural land that is turned into urban land is never returned to its original agricultural use. In the West, prime agricultural land is under threat because of increasing pressure from suburban growth, expansion of industrial corridors, and second recreational homes. In particular, the much-touted Calgary - Edmonton corridor encompasses some of the best agricultural land in the world (AGRASID 2003). While there is no denying this area is a vitally important economic engine for western Canada, we need to be cognizant of its agricultural value.

The larger point to stress is that sustainable agriculture practices must dominate in the future, and this requires protection of agricultural lands from urbanization. Here, western Canada can draw lessons from the experiences of Europe and the United States, where greater efforts have been made to conserve farmland. For example, the American Farmland Trust works to save America's farmland through three strategies: "protect the best land through publicly funded agricultural conservation easement programs; plan for growth with agriculture in mind through effective community planning and growth management; [and] keep the land healthy for farmland through encouraging stewardship and conservations practices" (American Farmland Trust 2003).

It should also be noted that the value of agricultural lands goes beyond the economic; these lands also have important historic, social and aesthetic values. Farms and ranches have been passed down for generations, and define not only families but the larger provincial and regional self-image. For example, Cartwright argues that the private and public ranchlands of southern Alberta are "emblematic of Alberta's beauty and heritage" (Carthwright 2003). Respecting dominant land use will protect these lands for generations to come.

Photo: Barry Wetsch

Alberta's June 26, 2003 announcement of the first Heritage Rangeland in the Whaleback of southern Alberta is an excellent example of how the concept of dominant land use is beginning to be employed in Alberta. This is clearly a win-win situation where a working landscape will support an important Alberta way of life while retaining its designation as a protected area. The rangeland designation sustains the traditional and dominant ranching use of the area and, as the Minister of Community Development says "this new class of protected area recognizes the unique relationship that ranchers play in maintaining native prairie vegetation through carefully managed cattle grazing" (www.gov.ab.ca). The agricultural land reserves (ALR's) in the Fraser and Okanagan valleys of BC are earlier examples of this same dominant land use principle. Because agricultural land is so limited in BC and suburban pressure so great, an Agricultural Land Commission was established in 1972 to protect the dairy industry and small farms in the Fraser Valley, and the vineyards and orchards in the Okanagan Valley.

Special mention must be made of the dominant land use of mountains. Mountains, and in particular the Canadian Rocky Mountains, are significant water towers that affect water resources across western Canada (indeed, across Canada). Alberta's eastern slopes cover an area of approximately 90,000 km^2 of mainly forest-covered mountains and foothills. The importance of this region as a water tower can be illustrated by its history. Between 1948 and 1973, the Eastern Rockies Forest Conservation Board provided a watershed management and policy/planning framework for the Rocky Mountain Forest Reserve, which

was recognized as the critical headwaters region for the three prairie provinces. In 1973, the Environment Conservation Authority conducted hearings into land use and resource development in the eastern slopes, resulting in the Alberta government's 1977 approval of its Policy for Resource Management of the Eastern Slopes. This policy placed the highest priority on watershed management, although the importance of recreation and tourism was also recognized. Thus we see an attempt to marry dominant land use and multiple land use philosophies. This marriage will be tested vigorously as economic and demographic pressures on the Eastern Slopes inevitably increase.

Element 5: Coordinating water and land use policies and practices

The policies, rules, regulations and guidelines for water and land use in western Canada can be difficult to understand for project managers, regulators and ordinary citizens alike. If anything is crystal clear, it is how complex and difficult the policy field is to understand. Unfortunately, this is not without consequences. Inter-jurisdictional and inter-departmental complexity, and at times even rivalry, can work against sound long-term policy. The cumulative effect of complexity can also lead to a situation where it is too difficult to act, or too difficult to act in time to balance and sustain growth.

The complexity is nicely illustrated by the *Guidebook to Water Management–Background Information on Organizations, Policies, Legislation, Programs, and Projects in the Bow River Basin* and by the *Bow Basin Plan: A Water Management Strategy for the Future of the Bow River Basin.* Both documents draw attention to the fact that First Nations, municipalities, and the provincial and federal governments all have a say in the licensing approvals for water use from the Bow River. Nor does the complexity stop there, for within each level of government there are further divisions into departments of agriculture, the environment, sustainable resource development, fisheries and oceans, and Aboriginal affairs.

Decisions around land use are marked by the same jurisdictional and departmental overlap as those around water use. Many ministries within the same government have dual and sometimes competing responsibilities; they not only set policy and regulations to control land and water use, but are also proponents of land and water use.

The basic problem is neatly summarized by Nilsen and McFarlane (2003) in their study of urban water issues: "Political boundaries do not align with watershed boundaries and because land and water users may have different or competing interests, it can require substantial coordination of the various stakeholders to protect drinking water sources. Currently no provincial or territorial government has a stand-alone designated agency

responsible for protecting all aspects of drinking water and drinking water sources."

What, then, might be done? The Energy Utility Board in Alberta is an excellent example of a cross-sectoral agency dedicated to the development and conservation of a key natural resource – in this case energy. The EUB is recognized internationally for its efficient regulatory and management systems; other provinces, states and countries have not only studied but have adopted many of the EUB practices. This "Efficient Machine" has been able to maximize the energy potential of the province while balancing a very delicate public interest. Perhaps, then, the EUB model could be adopted for some of our key natural capital assets (e.g., water, agricultural land, boreal forest, the Rocky Mountains and Eastern Slopes), a step that would bring the same integrated focus to these important assets. At a minimum, there is a need to have more coordinated decision-making around our natural capital if we are to sustain the integrity of our world-class urban, working and wild landscapes.

Element 6: Identify and develop opportunities for sustainable wilderness, heritage and urban tourism

As western Canada moves forward with economic diversification and growth, its urban, working and wilderness landscapes offer significant opportunities for tourism development. Tourism is the world's largest industry; the World Travel and Tourism Council estimates that globally, travel will increase to US $2.3 trillion by 2010 (World Travel and Tourism Council 2002). Tourism – drawing from within the West and Canada as well as internationally - is already an important industry in Canada and the West. In 2001, tourism spending in Canada was $54.6 billion; of this, Canadians accounted for 70% (Canadian Tourism Commission 2001).

One supposed advantage of tourism is its sustainability; as Marshall (2002, 2) writes, "...government should set a higher value on tourism as a land-based industry that will bring financial benefits long after the final drop of oil has been wrung from the earth and the last old-growth forest razed." However, western Canadian tourism depends on sustaining the region's natural capital, as is evidenced in the tourism slogans we use – from "Discover our true nature" (Canadian Tourism) and "Super Natural BC" (British Columbia) to "Land of the Living Sky" (Saskatchewan). An Alberta study found that outdoor activities still account for approximately 50% of respondents' recreational activities (Alberta Community Development 2001). The same study found that 59% of Albertans visited a provincial park in the past year.

The tourism data show that parks and protected areas do generate revenue, that they have economic value in the face

of increasing pressure for development in environmentally sensitive areas. For example, an Alberta study (Dobson and Thompson 1996) found that tourism generates revenue for the province that, while not in the leagues of the energy, forestry and agriculture sectors, is still considerable. The study determined that in 1992/93, visitors to Alberta provincial parks and major recreational areas spent a total of $185 million during their park visits. At the same time, the Alberta Parks Service spent only $42.3 million to operate and maintain the provincial parks system.

The western provinces certainly have room to expand their tourism industries. Tourism is a fast growing sector internationally, and nature/heritage tourism is the fastest growing component of the tourism sector worldwide. Although the western provinces are still minor players in this market, they have real potential for growth. In a 2000 report, the Alberta Economic Development Authority stated that "we can develop new tourism opportunities, attract visitors from around the world, and sustain Alberta's position as a thriving, world class tourism destination. ... However, a major new tourism destination or international caliber resort facility has not been developed in the province in the last 25 years and Alberta's infrastructure of tourism is aging." There are opportunities for wilderness tourism in the Rockies (already a popular international destination), Whistler, the Saskatchewan and Manitoba lakes regions, Vancouver Island, and the Alberta badlands. There are also opportunities for heritage tourism to western Canada's ranches, farms, wine country, and Aboriginal communities. And, there are opportunities for urban tourism to western Canada's large cities and their many attractions. However, in each area of opportunity, there is a need to protect and build natural capital. Tourists want to visit wilderness areas with actual wildlife, heritage areas in attractive settings, and cities with significant greenspaces. Our tourism opportunities are diminished if care is not paid to protecting natural capital.

The United Kingdom and Costa Rica are two examples of countries that have taken their natural capital and built tourism industries that lead their economies. Tourism is one of the UK's largest industries, worth approximately £74 billion and employing over 2 million people (Government of the United Kingdom 2001). As the UK Government reports: "England's historic environment is one of our greatest national resources. ... It embraces the landscape as a whole, both urban and rural, and the marine archaeology sites around our shores. ... This historic environment is something from which we can learn, something from which our economy benefits and something which can bring communities together in a shared sense of belonging. With sensitivity and imagination, it can be a stimulus to creative new architecture and design, a force for regeneration and a powerful contributor to people's quality of life" (Government of the UK 2001,4).

Costa Rica's move from an agricultural economy to a tourist economy is a prime example of what might be done in western Canada. Costa Rica had an 85% increase in the number of tourists that visited the country between 1992-2001, and tourism is currently a $1.3 billion industry.

None of this is to assume, of course, that the relationship between tourism and natural capital is anything but complex. Although the West's natural capital is the region's primary tourist draw, tourism is also a source of considerable strain on that capital. For example, tourism has an impact on wild landscapes that can, if managed poorly, erode the very quality of those landscapes. Tourism is not without impact on the very terrain that tourists want to see. Nevertheless, a focus on the tourist potential of the West is one way of bringing the region's natural capital assets into bolder relief. A sustainable tourist industry is dependent upon a sustainable approach to natural capital – as the old adage says: "you will protect what you love."

9. What ideas need to be thought through to develop a natural capital framework?

This report is intended to stimulate a more constructive dialogue on environmental issues. The natural capital framework was proposed as a more inclusive and less polarizing terminology, one that captures the concerns of individuals from urban and rural communities, from the business and conservation communities, from across the West and across the ideological spectrum. The focus on landscapes – urban, working and wild – was adopted in order to tap the emotional connections that western Canadians have with the physical environment, and to suggest a broader frame for public policy discussions. Above all else is an overarching concern that if the West's rich natural capital is not brought into greater prominence in public policy discussions, much of the region's competitive advantage and quality of life could be placed at risk.

At the same time we recognize that the framework is incomplete. Hence the recognition that we are attempting to start a discussion rather than mapping out a concrete public policy destination. In order to prompt and facilitate that discussion, we pose the following questions:

- Is the natural capital framework sufficiently inclusive? Does it provide a framework within which a balance can be found between economic activity and environmental protection?
- What details need to be filled in to create a more comprehensive and effective public policy framework?
- Does the framework apply across the West, and for that matter across the country, or is it more idiosyncratic in its application?
- Will increased tourism erode natural capital rather than build it?
- Does the natural capital framework suggest actionable steps that might be taken to ensure that natural capital is sustained?
- To what extent do existing public policy frameworks reinforce or contradict a natural capital framework?
- How might a natural capital framework be embedded in municipal, provincial and federal policy-making?
- Is the natural capital framework ideologically neutral?
- Would the adoption of a natural capital public policy framework unduly increase the regulatory load faced by western Canadians and western Canadian businesses?
- Would the pursuit of a natural capital framework require new political institutions?
- Will a dominant or selective land use model restrict activities in some areas?

In considering these questions, readers must keep in mind that the goal is to establish a framework acceptable to a large number of stakeholder groups across the West. Compromise will be inevitable on all sides. However, ensuring that western Canada's magnificent landscapes – our natural capital – are available for generations to come should be a labor of love for most western Canadians.

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